

Title (en)  
INFUSION PUMP

Title (de)  
INFUSIONSPUMPE

Title (fr)  
POMPE À PERFUSION

Publication  
**EP 2902048 A4 20160518 (EN)**

Application  
**EP 12885703 A 20120927**

Priority  
JP 2012006216 W 20120927

Abstract (en)  
[origin: EP2902048A1] [Problem] Provided is an infusion pump in which linearity of an output voltage of a Hall element in an occlusion sensor with respect to a variation of an infusion tube in diametral dimensions can be accurately obtained and an occlusion state of the infusion tube can be accurately detected. [Means for Resolution] Each of occlusion sensors 52 and 53 includes a Hall element 410 detecting a variation in magnetic fluxes of magnets 411 and 412 generated in accordance with a linear movement of a plunger 403 caused by a variation of an infusion tube in a radial direction that results from an occlusion of the infusion tube, and changing the variation of an infusion tube 200 in the radial direction into an output voltage. When increasing a movement distance of the plunger 403 to a plurality of predetermined positions D1 to D4, a control unit 100 obtains linearity of output voltages PV1 to PV4 of the Hall element with respect to movement distances to a plurality of positions D1 to D4 by applying a plurality of predetermined impression voltages BE1 to BE16 to the Hall element 410 for each of the movement distances to the plurality of positions D1 to D4 so as to select from the plurality of impression voltages applied for each of the movement distances to the plurality of positions.

IPC 8 full level  
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Citation (search report)

- [A] US 6213723 B1 20010410 - DANBY HAL [GB], et al
- [A] JP 2012029914 A 20120216 - TERUMO CORP
- [A] JP 3130658 B2 20010131
- [A] US 5098380 A 19920324 - AIZAWA TAKESHI [JP], et al
- [A] WO 2007079016 A2 20070712 - MEDTRONIC MINIMED INC [US]
- See references of WO 2014049660A1

Cited by  
US11801342B2; US11167081B2; US11324885B2; WO2019096518A1; EP3710080B1

Designated contracting state (EPC)  
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